Geophysical Research Abstracts
Vol. 14, EGU2012-8219, 2012
EGU General Assembly 2012

The effects of reforestation of mountain basins on its evolution into forests, and on the stabilization of the streams draining into them. The case of Arratiecho's gorge basin in Aragon Pyrenees (Spain)

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It is well known the high vulnerability of mountain gorges to rainfall events (extreme rainfall or sudden melting of the snow), as well as the need to restore their catchment areas and to ensure the stability over time, where the forest acts effectively, after been corrected their channels with hydraulic works. We also know that all the fundamental aims of a watershed restoration are: a) the protection of its population, goods and services from the damage that can be caused by torrential geodynamics triggered on the basin by rainfall events and b) the regulation of water cycles and sediments on the basin in any situation, during torrential intervals and the periods that pass between them, so that people can use the available land and water resources in a sustainable way

The basin of Arratiecho gorge (1.6 km2) is located in the province of Huesca (Spain). Its maximum and minimum elevation are 1667 m and 860 m and its average slope 52.81%. The length of the gorge is 1,4 km, with an average slope of 25%. The main type of soil is colluvial Flysch and currently 80% of the basin is occupied by trees from old reforestation and the remaining 20% are pasture and crops. At the beginning of the XXth century the basin was completely deforested and degraded, so due to rainfall events its sedimentation cone moved and at the top of the basin superficial landslides occured. Just after writing its hydrological restoration plan, between 1901-05, works were carried out, continued and completed. This poster shows the evolution of the basin before these works, the initial results and their current status, their achievements and the need of their maintenance task in the future